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ALEMBIC

PROVIDENCE COLLEGE



VOLUME XXV

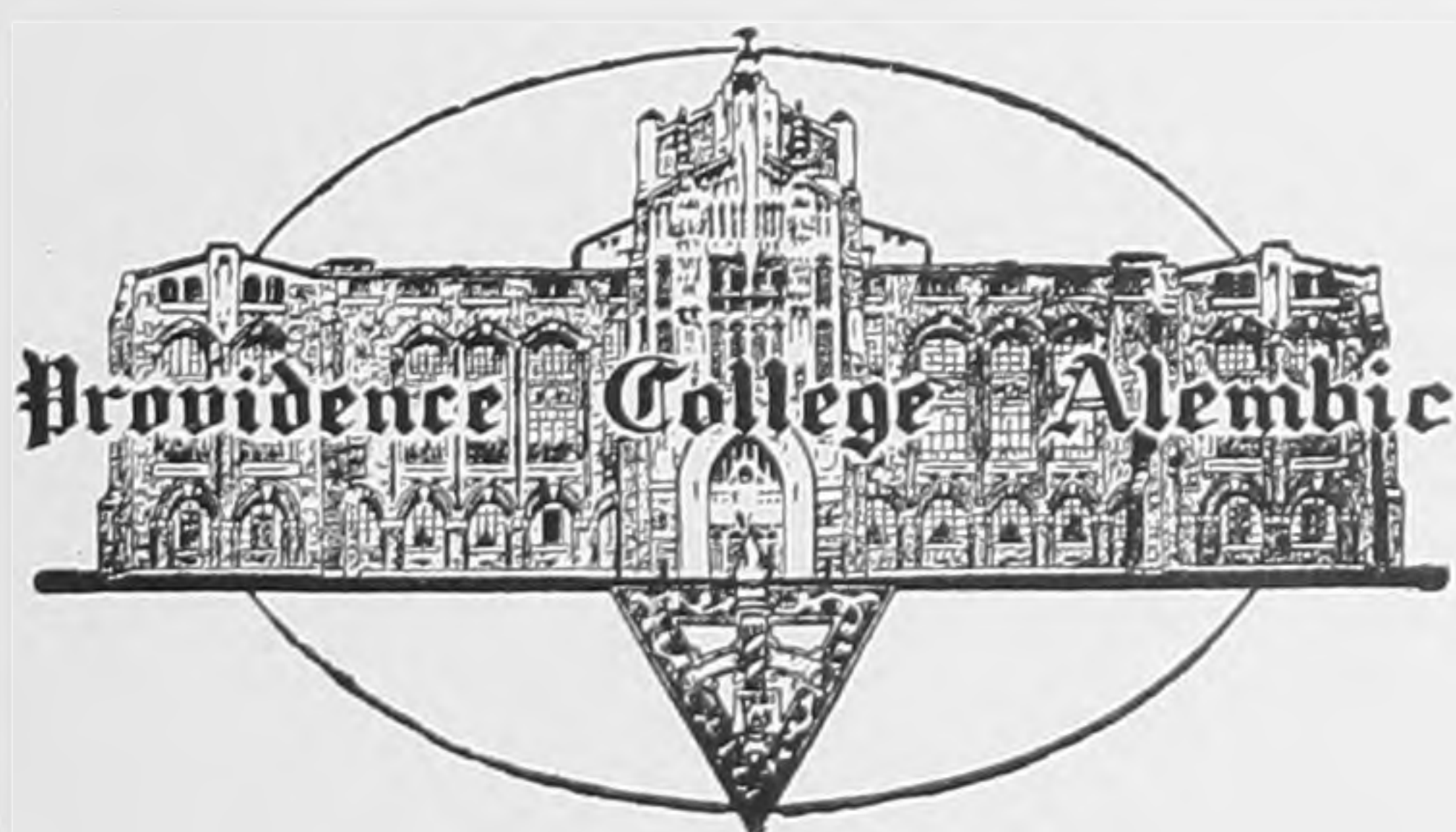
NUMBER 1

OCTOBER, 1942

A CATHOLIC COLLEGE AND WAR
RILEY HUGHES

FAST FREIGHT
MATTHEW KELLY

THE ALEMBIC



PUBLISHED QUARTERLY
BY THE
STUDENTS OF PROVIDENCE COLLEGE
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New Fingers in the Pi

NO other title could be more exact. This issue, THE ALEMBIC is pleased to introduce the work of several newcomers to Providence College literary circles.

In addition, THE ALEMBIC is proud to present an article dealing with the college written by an alumnus who has already established himself securely in the field of criticism. Mr. Hughes' article, "A Catholic College and War", published first in the *Holy Name Journal*, might actually surprise some of us who were unaware of the role that Providence College and Providence College men were playing in the war; others of us, tending, perhaps, to underestimate the value of a Catholic liberal arts college in wartime, will realize that P. C. has a job to do and IS doing it.

On a somewhat lighter side, Senior President Matt Kelly reveals an unexpected adventurous side of his personality in "Fast Freight". It would seem that Mr. Kelly has been holding out on us.

On the definitely serious side, Leo Kiernan expounds on "Cancer Research", rather a sombre subject to be sure, but a gripping one, too—cancer is definitely bad business, and it is encouraging to know that medical science is fighting to bring it under control. Kiernan does a fine job in presenting the facts of the battle.

In "Journey to Scotland", Tom Holleran presents an impressionistic study of a youth's mind and the danger in formulating snap judgments. Excellent description is Holleran's forte.

And, of course, By The Way. The column is somewhat tamer this time (Did we hear a sigh of relief?), but it's a trifle unusual, and we'll let it go at that.

The defense rests.

A Catholic College and War*

RILEY HUGHES

Department of English

WHOEVER first considered the American college an ivy-clad retreat from reality, has by this time had ample leisure and experience to revise his estimate. To the vast undergraduate body throughout America the campus is an intense and deliberate preliminary battle station. It is but a step from the campus to the deck of an aircraft carrier, the cockpit of a bomber, or the impersonal seating arrangements of the jeep. Ensigns, air cadets, and second lieutenants, all trim and resplendent, are familiar and frequent visitors to the halls of learning they so lately tenanted. This year the hot summer sun shone down not alone on large neo-Gothic buildings but on swarms of lightly clad young men perspiring under academic and/or calisthenic rigors. The war and the campus are in intimate relationship for the duration.

Much has been said and written about what the war has done and will continue to do to the colleges. Long before Pearl Harbor, educators called conferences to consider trends, committees were drawn up to adopt measures, and legislation was earnestly recommended. It is true that higher education faces a serious crisis, and equally true that the majority of the colleges and universities are solving their problems of decreased enrollments and (for those who have them) shrinking endowments with courage and dignity, although there is discernible panic among the few. Yet entirely too much emphasis has been placed

*Reprinted from the September *Holy Name Journal* by permission of the Editor.

on the negative side of the question. Not enough attention is being paid to what the college—in a qualitative way, of course—is doing for the war.

For although the war has reached into the even tenor of American college life and revised curricula with a blunt, imperative finger, higher education is having a powerful share in shaping the war potential. The colleges today are the training grounds for thousands of future officers in all branches of the armed forces. They are also training—and this is a job for them alone—scientists and technicians for vital military and civilian tasks. Curiously enough, the liberal arts college is here making a contribution out of all proportion to numbers involved. Whatever advantage the huge universities with their well-equipped plants and formidable student-bodies (both reminiscent of that other American institution, the assembly line) might have had at the start, the problem soon resolved itself into training individual men in mental discipline and responsibility. "Give us men who can think, who have a background of cultural values, and who have developed habits of incisive reasoning," say the army and navy leaders. Thus the Catholic liberal arts college in particular soon found its avowed purpose of education, the inculcation of the moral and intellectual virtues and habits, being welcomed as the only sound basis for the specialized military and naval training which the services themselves alone can provide.

Typical of the Catholic liberal arts college in its approach to educational problems in a warring nation and in its many-faceted contributions to victory, is Providence College, situated in the capital city of Rhode Island. The only college for men within the continental United States conducted by the Dominican Fathers, Providence College is a unique laboratory for the teachings and traditions of St. Thomas Aquinas, patron of Catholic education, and of the Order whose faculties in theology and

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philosophy have been the glory of the world's universities from medieval times to our own. To the seven unbroken centuries of Dominican learning there is added the freshness and energy of youth: the College had its opening delayed by the closing events of the First World War.

The first step in meeting the new demands made upon education was the accelerated program; the college was among the first to set up a year-round program of studies which divides the four-year college program into eight "trimesters" and allows graduation in two and two-thirds years. As a result of this program, Providence College, along with all the colleges which had changed to a year-round schedule, received Army and Navy approval. Both Army and Navy reserve plans are now in operation at the College. Under them, an undergraduate may be enlisted for unassigned and deferred duties; he is "in the Army now," or in the Navy, as the case may be, but he is serving his country at the particular moment by remaining in college. Differing only in their technical requirements are such programs as those for pre-medical students, the H-V (P), and the SCVP for the students in the department of business administration, both carrying the status of provisional ensign while the enlistee is still in college.

Not one course previously given was dropped, but several new ones were added. Religion and philosophy retained their central places in the curriculum (with six trimesters of the latter still the requirement for all degrees) but side by side with them appeared such new courses as celestial and terrestrial navigation, electronics, practical meteorology, and Latin American relations. For all undergraduates interested—and almost fifty per cent of the freshmen entering in June were pre-medical students—the Department of Biology offers diagnostic laboratory techniques, nutrition and health, and a popular course in first aid by the med-

ical staff offering demonstrations and training in the treatment of hysteria, shock, concussion anoxia, burns and hemorrhage. The emphasis was not on dropping subjects as inadequate to the times, for in the balanced Catholic curriculum there are none truly such, but in adding certain courses of a professional nature to meet a special situation. Catholic college students, it was felt, might not be called upon to undertake different subjects but rather to engage upon additional ones.

An "adequate physical training program" is required of all colleges and universities seeking approval of the armed forces for reserve enlistment plans. Ask any undergraduate on the Dominican campus about the physical education program started this past June! He will tell you it is more than adequate—it's terrific. All able-bodied undergraduates are now required to take a Commando-like training in physical education in order to qualify for a degree. Rigorous "final examinations" are given in the cross-country run, in barrier-hurdle jumps, in the running broad jump, and in various individual and group races. There was some grumbling at first, but the response soon changed to enthusiasm and the students soon indulged in good-humored raillery about themselves as "Commandos." It is no small indication of the success of the program that the term "Commandos," used derisively at first, is now employed almost automatically and with respect, even by the faculty.

Each department of instruction, often with the loss of a member to the armed forces, is carrying a greater load of teaching hours. Many, like the physics department for example, have added courses for Navy V-5 and V-7 enlistees. One of the most important of the war-related courses is that in electronics, which studies the vacuum tube, the heart of modern radio. So important is our country's need of men trained in communications that one hundred per cent of those given such training at Providence

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College last year found immediate employment in the Naval Research Laboratory in Washington. When priorities clamped down on copper wire, condensers, and resisters of all kinds, the students in electronics went to the second-hand radio shops in the city and environs and picked up enough material to serve their requirements for some time to come.

All these things cannot happen without their effect on undergraduate life, without investing the campus with new meaning and purpose. Perhaps indolent student human nature has not been entirely overcome, but whatever "escapism" may have been present before is completely gone. Equally important is the off-campus effect of the public service aspects of the College's very real contribution to the war effort. This effect has not been merely local, or even State-wide; at least the more "news-worthy" activities have received nation-wide attention. Perhaps the most humorous indication of an increased public awareness of what Providence College is doing these hectic days was the request of an Army private who had recently arrived at a Rhode Island fort. Apparently he had heard a great deal, in a confused way, about the College's pre-medical and pre-dental training, enough to make him believe it was a large university with many professional schools, for he wrote asking for a dental plate, offering to pay for it out of his monthly check!

Not the least of the College's contributions to public service is that being offered by the athletic department. One of the first to engage the service teams in varsity sports and to turn over its facilities for relief games, the department arranged for a series of baseball games with teams from the Newport Naval Training Station, the Tenth Coast Artillery, the Quonset Air Base, and Fort Devens—all within convenient distance—on its summer schedule. This was entirely altruistic, too, for although the Friar nine defeated all of its college rivals, including two trouncings for

Yale, it was beaten by some of the service teams, on one occasion at the hands of four alumni.

Perhaps the most important, and certainly one of the most interesting, contributions which the College has made in the field of public service has been the work of the chemistry department. Literally millions of newspaper readers all over the United States became aware of the dangerous and imminent possibilities of gas warfare when pictures of the work of the department head were released. The scholarly young priest who heads the physical chemistry division is on the training staff of the Rhode Island Civilian Defense Council, and from his own training in the U. S. Department of Chemical Warfare has done widely recognized work in instructing air raid wardens and other concerned groups in gas and incendiary bomb fighting. For the State Council he devised a set of six "sniff sets," each containing a harmless but genuine dose of a deadly poison gas. Requests for these sets or instruction on how to make them poured in from defense councils and university chemistry departments everywhere. To the College auditorium one late summer evening came the Motor Section of the Providence Chapter of the Red Cross; the some two hundred women present were on hand to witness a "fire lecture," or demonstration of the chemical principles of fire as applied to the fighting of incendiary bombs and the secondary fires they cause. The College runs its own Decontamination School for a squad from the State Department of Public Works—men who labor on the U. S. highways with pick and shovel visiting college lecture halls to learn how to clear up a gas-infected area.

Of course not all the activities being carried on daily at Providence College are of so dramatic or demonstrably practical a nature. Yet is it too much to hope that a lecture in theodicy or a seminar period in social work may have some calculable

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effect on the war and the peace to follow? The job to be done takes many forms. Many hundreds of alumni are in active service; as many undergraduates are in college, training for future service. Former members of the faculty, lay and clerical, are with the armed forces—in combatant or technical duty, or with the chaplains corps. At least one member of the latter, a wearer of the Distinguished Service Cross, has been reported missing in action. A large percentage of the clerical faculty is engaged in Civilian Defense work: the head of the sociology department, for example, is Director of Defense Information and chairman of a State minimum wage board. A professor in the business department, a layman, is chairman of a local draft board.

These will be difficult years for the colleges, and Providence College can expect to fare no better than the rest. Decreased enrollments, priorities, and other problems will have to be met. But, unlike the colleges and universities swept away from their original moorings and with a mere century or so of rule-of-thumb experience to fall back on, the College derives strength from the full tradition and hope of the Church, and the long history of one of the Four Orders. Dominican institutions have faced grave crises before; at this moment the oldest university in the Orient, the Dominican St. Thomas University in Manila, is being used by the Japanese as a concentration camp. It is little wonder, then, that Providence College doubles up on building space, continues to teach philosophy and the humanities, broadens its activities in public service, and prepares, not without hope, for its Silver Jubilee in 1944.

The Father

By JOHN GERHARD

“**D**O you really love me, Warren?” she asked.
“You know I do, darling. With all my heart and soul. I’ll always love you.”

Mrs. Cartwright sighed deeply and relaxed. He did love her, then. That made it a little better, she thought. After all, if two people loved each other, everything would come out all right in the end.

“I’m sorry, darling,” Warren was saying, “but you know that today is my busy day. I’ll have to go. I can call you on the phone sometime tonight. Kiss me goodbye?”

She nodded. Ever since she had been married, it had been like this. Only snatches of him now and again. Well, some day this business would be over and they could live like two ordinary people. She sighed again. She held his coat while he slipped into it, then waited for his kiss.

“I feel like a beast, leaving you alone like this”, he said, “but someday things will be different.” He kissed her, then released her reluctantly. “Goodby darling”, he whispered lovingly.

She watched him stride rapidly down the walk and get into his car. Then he was gone.

Alone again. She was always alone, Mrs. Cartwright reflected bitterly. What good is it for a woman to be young and beautiful, if she’s forever sitting in the house talking to herself? What good to have a beautiful home in the best section of the

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town? Sometimes she wondered if she was a fool for having come to this two-by-four town.

It was funny in a way, and she smiled mirthlessly. She watched the ashes from her cigarette fall to the floor. That rug cost \$1200. It was a crime to dirty it, but the maid would clean it when she came.

She sat down on the lounge and crossed her legs. She looked at her legs critically. They're the best pair of legs in this town, she told herself. And she brightened somewhat when she remembered the way that the young clerk in the shoe store had held her foot yesterday. Probably a high-school kid, he had held her foot reverently in his hands as if he had been afraid of crushing it, and had flushed in embarrassment at the intimacy of his position, kneeling at her feet. He was probably used to waiting on old hens. Well, she was no old hen, not at 28.

She crushed the cigarette out. A year of married life had soured her. She should never have married a man who was 31 years older than she. But then again, how many young fellows had \$800,000? That was life for you, she thought. Her friends all had congratulated her when she had caught *the* Dr. Cartwright. What if he was 58 and married twice before? He could give her everything she had ever wanted. She was really the luckiest girl in the world, everyone had said so.

Yeah. She was lucky all right. So she sat at home all day with herself for company and read medical journals. At night she had to entertain The Doctor's friends. Everyone called him The Doctor—to the people in this small town, he was lord, god, and master. Everyone loved him. Sure. But they weren't married to him. They didn't have to sit at home all alone while he went to the hospital. He had practically paid for the hospital—why shouldn't they put him in charge?

Well, she resolved, things would be different after the baby came. He'll pay some attention to me then. She laughed when she thought how surprised he would be when she told him. He'd probably go crazy, he'd be so happy. Becoming a father for the first time, and at his age! Well.

She wondered what it would be like, having a baby. Good God, who'd ever think that *she* would ever be having a baby. She, who always hated the idea of having kids and all the mess and trouble that went with it. Well, this was what she got for her carelessness. There was nothing to do now but go through with it and brazen the whole thing out. Afterwards, she could get a nurse to take care of it. It? Surprised, she wondered all at once whether it would be a boy or girl. Not that it mattered, of course. Why can't a woman tell in advance whether her own kid is a boy or girl, she asked herself irritably. The woman does all the dirty work and she doesn't know until it is all over how the thing came out. That's life for you, she thought.

Suddenly, she heard him walking up the drive. She could tell it was he because of the slow, deliberate clicking that his heels made on the concrete. Whenever his shoes needed repairing, she always had the cobbler put on leather heels instead of rubber. That way she could always tell when he was coming. She ran quickly to the mirror over the fireplace, adroitly fixed her hair and put on more lipstick. Then she pulled her stockings straight and with one hand swept the cigarette ashes under the lounge chair.

Now she was ready.

She waited until the door opened; then she raced from the far end of the room, to smother her husband's head with kisses.

"Darling, darling", she repeated over and over. The tall, gray-haired gentleman made no pretense at disliking this daily

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ritual, but he was always rather embarrassed by the external display of affection with which his wife daily greeted him.

"It's good to be home, my dear", he said warmly. "I've been running around all day and I'm tired. And yet I doubt that I've done anything at all. It's good to be home".

"Of course, darling", she said solicitously. "Sit down here and rest until dinner-time. Then after supper we'll go out somewhere and have a nice, quiet evening."

"All right, my dear", he surrendered.

Why does he always call me "my dear"? she asked herself fiercely. He sounds as if he were talking to a little girl. And the way he says it you'd think he actually meant it.

She remembered then. The baby. Now was as good a time as any to tell him. But she musn't be too abrupt; she'd have to work up to it cleverly so as not to kill him with the shock.

She sat down on the arm of the chair and placed her hand lovingly on his forehead. "Darling", she began, "I've a little surprise for you. No. You mustn't ask any questions; let me explain first." She paused. Then, "I'm going to have a baby!"—she blurted it out.

The effect on Dr. Cartwright was terrible. The color drained from his face, his mouth trembled and his hands tightened. He stared up at her, incredulous.

Finally he managed a throaty, "What? A baby? You?"

She was amazed at his reaction. She had expected him to be delighted but instead he appeared mortally wounded. He pushed himself up from the chair and stretched himself to full height.

"You're going to have a baby?" he asked, as if trying to convince himself of an error.

"Yes," she said, frightened now. "Are you angry?"

"For a moment he was silent. "No", he said at last. "No, I'm a bit staggered, that's all". He went on, "It's quite a shock for a man almost 60 to learn that at last he is about to become a father. I still can't believe it."

"I know, darling", his wife replied, in a tone of relief. "I'm sorry to have frightened you so."

"Of course," he returned. "I think I shall take a short walk and get some air. I must try to recover my equilibrium."

She helped him with his coat, opened the door for him, and then watched him plod down the walk.

Hardly was he out of sight than the telephone rang. She crossed the room and picked up the receiver: "Hello? Oh Warren darling, it's all right! I told him and he believed me! Yes! I thought for a minute he was suspicious, but he's not. I almost died! It's all right. He's delighted with himself. Yes; all right, tomorrow morning". She hung up.



Fast Freight

By MATTHEW H. KELLY

IT was the summer of 1940. Jim and I were touring the country in a model T Ford. On this particular night we had left Grauman's Chinese Theatre in Hollywood at a quarter-to-eleven and were trying to make Chula Vista that night. On the streets of San Diego—just seven miles from Chula Vista—Jim fell asleep at the wheel, and we found ourselves trying to crawl under the rear end of a parked car. It was a most peculiar position—at least the police thought so. Insurance took care of the matter of damages, but it didn't restore the car to life.

And that is how we began to think seriously of travelling via freight. Before, as we travelled out to the coast, we had watched the long, dirty freights move languorously across the plains and wind their way through mountain passes. At Grand Canyon we had seen a majestic passenger train waiting to leave for points west. At El Paso, where the Rio Grande separates Mexico from Texas, we were sleeping in our parked car alongside the railroad tracks which are just above that lazy river. The roar of a midnight express awakened us and for a moment we thought that the car had been set in motion by the train and was heading towards the river uncontrolled. One night in the fields of Huntington Park, the industrial section of Los Angeles, when I was curled up on the ground in my sleeping bag and dead to the world the shrieking blasts of the tremendous furnace of a slow moving locomotive awakened me with a start. I looked around; saw the sky lit up into a bright yellowish-red by the engine; noticed that the tracks ran a safe distance from my position; and went back to sleep knowing I was safe from the fas-

cinating Frankenstein. At Carpenteria Jim and I watched the slow freight leave the little station on its way into Santa Barbara about ten miles distant down the coast. We watched the young boys and the tramps board the freight as though its only duties were to carry them into the big town. Jim and I were tempted to climb aboard ourselves but we didn't. We remembered my aunt telling us how my uncle and another gentleman, both finely dressed at the time, were stranded in Carpenteria one night and how they were forced to board the friendly eight P. M. freight with the nondescripts—and how she at first didn't recognize them when they appeared at the door that evening, for, she said, they looked like some of the good people Lincoln freed.

I used to watch the freight train shuttling up and down the main street in Chula Vista. I used to watch the engineers running along the tops of the box-cars and wondered what it would be like to do the same. Yes, trains fascinated me then and they still do. I had ridden passenger trains many times, but I had never ridden a freight train. And to ride a freight train was something I had always wanted to do. And now that we had no car to hold us down I thought it would be a good time in which to do it. I talked to Jim about it and told him that by riding a freight part of the way home to the East Coast we could save quite a bit of money and pick up a worth-while experience at the same time. He thought the idea was good with this exception—that we try our luck at hitch-hiking before boarding a freight. So we planned our trip back this way. We would take the bus from San Diego to Salt Lake City where we would attempt to hitch-hike on the through highway from that city to Chicago; if this failed we would then hop aboard a freight on one of the Great Northern Railway lines. Such a freight would be a through freight to Chicago—a distance from Salt Lake City of about thirteen hundred miles. From Chicago we planned to take a bus through to

Fast Freight

the East. . . . Thirteen hundred miles via freight—the adventure appealed to us!

After a sleepless night and an agonizing day of travelling over the hot, sun-scorched roads of California, Nevada, and Idaho, we finally arrived at Salt Lake City. Stretched out on the benches of a local bus depot we tried to get some sleep that night but couldn't. In the morning, some miles outside of town, we began to hitch-hike. We inquired from some fellow knights of the road (there are other names for them, too) how their luck was. Some of them had been trying for hours; others since the day before. This was understandable when you realize that western roads are not heavily travelled. Deciding to forget hitch-hiking we started out across the fields to the railroad tracks; down the railroad tracks to the station of a little town sprawled at the foot of a small group of giant-sized mountains. There we went into town to buy some rope so we could fix our rolled-up sleeping bags on to our backs. The clerk from whom we bought the rope, surmising that we were going to ride the freights, told us to be careful—that a friend of her brother had been killed the year before while doing the same. From the store we left for the station lawn where we sprawled out among those whom we thought were townsmen on their lunch hour. For the good part of an hour we waited patiently for the freight.

When a slow freight finally came rumbling down the tracks, tooting its whistle, these so-called sleeping townsmen suddenly awakened and began to dash for the tracks. One of the "fleeing townsmen" was carrying a suitcase by a strap. As he approached the railroad tracks he began to swing the suitcase. Giving it one grand swing and aiming it so that it would fall into an empty coal car he relaxed his grasp on the strap. But his aim was slightly incorrect, for the suitcase didn't quite clear the high side of the coal car. The bag opened up—and bag and all came

flying back onto the gravel. . . . He didn't make the freight. . . . I then decided to try my luck at boarding the freight. With my sleeping bag over my back I began to run up the tracks—at the same time maneuvering myself into a position along side one of the coal cars. I threw out my hands, grasping the ladder which scaled the side of the coal car. I hoisted myself on to the first rung of the ladder and then up the other rungs. As I neared the top I looked back anxiously to see if Jim had made the freight, too. He had. And, strangely enough, out of the sizeable number who ran for the freight only one other man made it.

I then began to traverse the lengths of the cars—watching my steps very closely as I stepped from one car to another. Jim was doing the same thing from his end of the freight, and we finally met in the middle of a flat car—something like two generals meeting in a railroad car to talk terms (something like it I said). Jim and I talked about how lucky we were to have made the freight. We then decided to make the acquaintance of the stranger who was aboard the freight with us. After reaching his position, which was several cars from where we were, and exchanging salutations (this is damned dignified language for bums on a freight train) we learned that he was an ex-engineer who was on his way back to North Carolina to see his wife and children. He saw that we were inexperienced when it came to riding freights; and seeing also that we were nearly choking from the coal dust he offered us his bottle of whiskey; . . . censored. . . . The freight stopped for water some miles up the tracks. And our friend, his thirst still not quenched (and I can tell you that the stuff he had was enough to quench anything), stopped for water, too. We were afraid of missing the freight, so we did not join him when he went into the station to get a drink. Just as the train was “pulling out” he came dashing from the station and climbed aboard with us again.

Fast Freight

As the freight rumbled on into the afternoon we viewed from our perch Wyoming's rugged scenery—its broad fields, its mountains, and its red clay canyons through which the train travelled. With coal dust from our tremendous freight engine sifting into our hair and blowing in our eyes this view seemed even more barren than it was. But it was not long before a town called Green River occupied our attention. This, we learned from our friend, was a junction point, which meant that at this town our freight would be taken apart, and other freights would be formed for points East.

As we came into Green River the three of us crouched low in our coal car, so that we would not be caught by a yard "cop". (Being caught by a yard "cop", who is only to be found at a junction point, means in the West ten days on the rock pile—as you see physical education has been thought of before.) As the freight came to a stop we peeked out over the side of our car, and seeing no opposition we alighted and headed for town and food. Over a Green River dinner and a bottle of Alkaseltzer we laid our plans for "hopping" our next freight. And that we decided would be a fast freight headed for Chicago.

That night about ten o'clock we crept quietly and unseen into the railroad yard. The yard was full of long lines of freight cars of all descriptions—big, red-painted, sturdy, iron refrigerator cars; the more frail, wooden box cars of sundry colors; the dusty, dirty coal cars with the high sides; the long flat cars, engrained as they were in coal dust; the long black gondolas; the tank cars, some black, some silver. As we glided from one line of cars to another, careful all the while to keep out of the way of the yard "cop", we came to what our ex-engineer friend believed was a fast freight being made up for Chicago. We inquired about this when we came across a gang that was milling about in front of this freight. Finding it to be true we began searching for berths.

First we covered the whole length of the freight trying to pry open the sliding doors on the box cars. Having no luck with this we climbed atop one of the box cars and then systematically covered that box car and the rest of the box cars—stopping at each end of each box car and hollering down the openings to see if there was room enough for three more fellows. (These openings on the tops of the box cars are necessary so that perishable vegetables, which the cars carry, will have air. Four men, in cramped up positions, can sleep in each opening.) But there was only one vacant berth among all the openings. The three of us did not want to part. But it was only sensible that one of us should take advantage of the vacant berth. Of course, the logical person for this single berth was our friend the ex-engineer. Jim and I, wanting to stay together, would ride out in the open on an oil car. Our friend, knowing that this would be a very cold ride, gave me his big, heavy jacket to wear, since Jim had a jacket of his own. . . . So Jim and I walked along the tops of the box cars, jumping from one to the other, until we came to an oil car. And here—because there was a platform and a railing around the entire car—we took our positions, along with two others, for the ride to come. In making the acquaintance of our companions we found out that one was a former sailor—which sailor, incidentally, was good enough to show me how to fasten my sleeping bag onto the platform so that it wouldn't come off. . . . For a while we waited patiently on the tank car; nothing happened. . . . With a terrific and sudden snap that nearly threw us from our perches into the train bed, our fast freight finally started on its journey to Chicago.

Slowly but surely the freight train gathered momentum. Faster and faster it rolled until it was going, I am sure, almost three times as fast as the slow freight. In other words, it was rumbling through those red-clay canyons and through the long,

Fast Freight

wide fields of browned grass, all cloaked now by the full moon in a nocturnal gray, at a pace of approximately fifty miles an hour. Jim and I were standing on the platform which covered the front section of the long, black tank car. Our arms were locked around the railing. And our bodies were bent over in sort of a semi-circle; this was done in an effort to escape, at least in part, the stinging and painful bite of the wind. It was an August night. But an August night, spent hanging onto a fast freight as it speeds over the rough plateau land of Wyoming, is a night spent in extreme cold. If our ex-engineer friend had not given me his heavy brown jacket to wear, I am sure that I would have become so numb as not to have been able to hold onto the railing any longer. Lucky it was that there is chivalry among the knights of the rails. . . . But in spite of the cold we were prone to sleep. That we wanted to sleep can be accounted for by the fact that we had not slept for the past two nights—we had rested, it is true, but had found it impossible to really sleep. Seats in a bus and couches in a bus depot are not conducive to this very necessary part of life. . . . The bouncing of our tank car served as a lullaby for weary heads. . . . On, on through the night we went like this: shivering from the cold; drowsy and on the point of falling asleep—yet valiantly fighting this urge, for we knew that to sleep meant the relaxing of our grips upon the little, iron rail. Unable to keep ourselves awake by conversation, Jim and I kept ourselves awake by fear, for we knew that to fall asleep meant to fall from the tank car and be ground by the whirling wheels. We travelled like this hour upon hour. At length several hobos moved up from their end of the tank car to our end—evidently for the purpose of making conversation in order to pass the time away. One of them was looking down at the wheels of our car and the wheels of the car in front of us. He seemed to be fascinated by these large, heavy, whirling,

steel forms. He seemed to be even more fascinated by the thick, glistening, surface edges of these wheels as they ground against the shining steel rails, and red-hot sparks flew up for a distance of a foot or two. As he was watching this spectacle he leaned over to Jim and said, "Yuh know, last year one of those wheels came off—killed eight of us." This was enough for Jim—and I didn't blame him. He had been looking down at those wheels all night and wondering if he would fall asleep as he had done while driving on the coast. He leaned over to me and said, "Let's get off at the next stop. I'm afraid I'll fall asleep and fall off." I nodded my head in agreement. . . . Soon the train came to a rough, jerky stop and we got off. As we were leaving the railroad track a hobo invited us down to the "jungle" (a little hobo camp) for some coffee. But needing sleep more than coffee we said no and thanked him just the same. . . . We threw our sleeping bags out in the middle of a large field that night and slept as though we were in beds of feathers.

In the morning we headed for the town nearby. Jim could see that I was as black as the ace of spades from the smoke and soot of the freight train. I got the same impression of Jim. So, not wanting to frighten the good people of Wyoming with the sight of two negroes with New England accents, we stopped at a gas station and washed. When we got into town (Rawlins, Wyoming) we bought bus tickets to Boston—no more freights for us. . . . As we boarded the big, luxury liner bus (you still can't sleep in them no matter how luxurious they're supposed to be), we saw a family waving good-bye to one of their daughter members. We waved good-bye to the family, introduced ourselves to the daughter, and proceeded merrily on our way to Bean Town.

Revolution in the Making

By JOSEPH KENNY

“THE world’s most important fact is not that we are in a war, but that we are in a revolution.” This is the opening sentence of an article by Julian Huxley, the English scientist and writer, in the September issue of *Harper’s Magazine*. The United States, he says, is the only great power which does not fully recognize this fact.

Most thinking Americans will agree with Mr. Huxley that we are in the midst of a world change and that the war is but a symptom. On looking back over the years of Our Lord we are struck by the fact that every four or five hundred years we have had an almost complete change of living or thinking. For the first five centuries of the Christian era the Roman Empire was the dominant force in Europe. By the tenth century the Dark Ages had given place to the Middle Ages. From the fifteenth to the present century the Renaissance and its bastard offspring have molded life and thought. The Reformation, Humanism, the Enlightenment, the Industrial Revolution, the French Revolution, all had their beginnings in the womb of the Renaissance.

And now in the twentieth century the world is again in labor. What is about to be born? As Huxley says, we are in the unenviable position of living in the midst of a revolution and those now living do not know what will emerge. However, we can see the trend of things and to some extent determine what will appear later.

"The revolution is a result of the breakdown of the nineteenth century system, and especially of economic *laissez-faire* and political nationalism", writes Huxley. Again most of us will agree. It has been obvious these many years to anyone who has considered the question "what's wrong with the world?" that the economic Capitalistic system has broken down. It does not require the intellect of a Huxley to see what has caused the present crisis. What has not been grasped by the man in the street and even by our economists is the fact that the Capitalistic *laissez-faire* system has broken down *beyond repair*. Most Americans believe that when the war is ended they can return to their old manner of living. The war to them is but an inconvenient hiatus in their way of life. There shall be a rude awakening!

In the Capitalistic system the emphasis is placed on the economic welfare of the nation rather than on social welfare, i. e. the welfare of the national society. According to Huxley a great change has taken place in which the economic welfare has been relegated to second place. Huxley points out that this is most true of totalitarian countries although it may be observed in Britain, too. Eight years ago, he says, a committee reported that "democracy was in danger of suffering ship-wreck on the hard rock of finance" because Britain had a budget deficit of 120 million pounds. Britain is now spending this sum in a week in its war effort. Germany and Russia are getting along without balanced budgets. The social welfare of the State and not economic welfare has now become the paramount issue. Huxley then considers in his article how we may best achieve this end. There are two methods—democracy or totalitarianism. Huxley chooses the former and then determines a basic criterion of democracy. This in his words "... is that the individual and his ultimate welfare and fullest development shall be paramount; ... and this implies the maximum amount of freedom, the fullest

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equality of opportunity for development, and the maximum degree of cooperation.”

While insisting on achieving the upheaval by democratic means Huxley’s new State will not be a democracy but a form of Socialism, (or so it seems to me) ; for he states that some of the trends are central control, maximum co-operation and subordination of economic motives to non-economic motives. Taken together these spell Socialism.

Britain has always hated revolutions but has been undergoing an evolutionary process towards this goal since the last war. She is far closer to Socialism than the United States. I am therefore afraid that the process here will be of a more violent nature for, after the present war, changes will come fast.

It is incumbent on us as Catholics to realize fully that we are in the midst of such a situation, so that in the post-war period a Christian State and not a godless one shall emerge.



Journey to Scotland

By THOMAS HOLLERAN

THE darkness was just lifting as I reached the summit of the hill. I paused for a moment to catch my breath before attempting the long climb down Duke Street. Far beneath me a light fog was slowly rising, revealing the smoke-encircled chimneys like fingers reaching to grasp a cloud. Off to the west, the street lights, one by one were being extinguished by their faithful attendants, the lamp-lighters. Alone in the street, I started down the hill, which was paved with wooden blocks, misshapen from constant trodding upon them. My heels clicked upon them loudly and helped me forget that I was alone. When I had travelled half way down the hill I could see two figures approaching. One was going from house to house, tapping upon the windows to awaken the people. He was called, technically, a "knocker-up" and for his trouble he received four pennies a week from his customers. A carpet-beater attached to a long pole was used to waken the people. The other fellow was walking beside a donkey. Strapped to the donkey was a saddle and attached to the saddle were two hooks from which hung two large milk cans. The man carried a ladle in his hand and at every few houses he would stop and fill the ladle with milk and empty the milk into pitchers left on the doorsteps for that purpose. I noticed that the pitchers were uncovered, thus, left to the pleasure of the neighborhood cats and flying dust. I wondered why donkeys were used to carry the milk and later realized that the hill was too steep for horses to climb. I passed

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the second of the two men and noticed that now it was actually daylight. As I was descending I thought how often I had walked this same road before, how often I had seen the same things before. And the picture I always remembered was the closeness of the houses. They were of the double-cottage type and were separated only by a nine-inch brick.

A few feet more and I would be within the railroad yards. The place was deserted except for an idle freight car, rusty from want of use. I stood there, depositing my knapsack, patched and frayed in several spots. Just then I heard a train whistle and saw my train approaching. It was a small passenger train of about eight cars and the pride of many a person in Halifax. The train came to an abrupt stop and I waited for the passengers to dismount. I entered the train via the platform and immediately I exited from it, for I had forgotten to obtain a ticket. I headed for the ticket office and stood in line for my ticket. There were just five people before me and no one came in back of me. When I reached the ticket office window, the station-master said, "Where to?"

"Liverpool," I replied meekly. I handed him a pound. He gave me my ticket together with my change of fifteen shillings and six-pence. I hurried to the nearest third-class coach. I entered and sat down on one of the wooden benches. There were just two benches in the coach each against the wall and facing opposite each other. On either side of the coach was a door, each between two windows. One of the doors carried a sign which read, "Positively No Smoking." Directly beneath this was another sign which had been partly torn so I was unable to make out what it said.

As I was noticing a paint stain on one of the windows someone entered the coach. I turned and saw a tall, rather obese man of about forty years. He wore a straw hat (rather late

in season) and a brown and white pencil stripe suit which almost entirely covered a pair of gray spats. His shoes were black and shined, yet the worn toe of one of them could be noticed slightly. He carried a large, reddish-colored suitcase with brown strap-pings, inexpensive in itself but rather luxurious as compared to my plain knapsack. He sat down beside me, placing his suitcase before him on the floor. Removing his straw hat he revealed a thick mass of red hair. He grunted, pulled a newspaper out of his pocket and proceeded to light a cigar, but his attention was drawn to one of the "smoking prevention" signs. He did not speak but began to read his newspaper. I watched him all the while. He looked up from his paper only when the conductor came to collect our tickets.

Immediately after, the train with a few "chug-chugs" pulled out of the station and rolled smoothly along. I wished that the man would speak to me for I disliked sitting there with no one to talk to. I gazed intently at the man hoping he would close the paper and start a conversation. He merely turned the page of the newspaper and continued reading. He did not even look up when the train stopped at a little station. Three men came aboard. Two of them were stocky policemen in black uniforms and spiked hats. The other was a thin fellow of medium height. They sat on the bench directly opposite me. The thin fellow, a man of about thirty, had handcuffs about his wrists. These handcuffs were also attached to the policemen's wrists. (I had never seen anyone handcuffed before, although I knew what handcuffs meant.) I watched the man. He wore a gray cap which covered his entire head and which gave me the impression that he was bald. He also wore a black suit-coat and gray pants, a combination which I had never liked. His mouth was sunken in and his pointed chin and long, thin nose almost touched each other. He noticed me watching him and

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stared at me fixedly. I turned my head slightly out of embarrassment and looked at the man who was reading the newspaper. How I wished he would say something. All the while, neither the policemen nor their "companion" spoke. I looked at him again. His small, cold eyes just stared at me. I cannot express the feeling that came over me. Those eyes just pierced me to the quick and I was actually afraid, afraid he would jump up at me. Until then I hadn't thought much about the handcuffs. Why did he have to have them I asked myself? And why was there need of two policemen? In a flash it came to me. He must be the fiend who murdered his wife and child in a fit of jealousy. I had read about him in the paper the day before and I remembered something about his being escorted to "Old Bailey," the principal jail of London, to be hanged. I dared not look at him now, even if I wanted to do so. My mind was filled with thoughts of this murderer. I could almost feel his hands closing about my neck as I thought of him, strangling his wife and child. I could hear their fierce screams echoing in my ears. What a low dastardly brute he must be. I wanted to look at him now and let him feel the crushing contempt I felt for him. I seemingly looked straight ahead, but out of the corner of my eye I watched him. He was staring straight ahead. I thought his eyes were watering and out of the corner of my eye I followed a tear as it rolled down his cheek. There was another and then another.

Cry now, I thought, when it's too late. I wondered whether he was crying for what he had done or through self-pity. I wondered, also, how he could ever experience the human emotion of sorrow. He was too cold and hard-hearted. Then I remembered that all hardened criminals soften in their last remaining minutes. It's too late to become soft-hearted now. The deed's done. You can't bring them back now.

The gentleman sitting beside me looked up and out of the window. He folded his newspaper and put it beside him. In a moment the train stopped and he picked up his hat and suitcase and got off, leaving the newspaper on the seat beside me. Hardly a minute elapsed when the train started up again. I reached for the newspaper and unfolded it. At least, I thought, I would have something with which to busy myself, for the rest of the trip. The front page was full of the story of the double murder. I was too disgusted to bother reading about it. I turned the page and there in the right hand corner at the top of the second page was a picture of my criminal train companion. Beneath the picture was an accompanying column of words which read:

“Young Jerome Bowher, well-known English author, will be confined, today, to the Benton Sanitorium for mental cases. Mr. Bowher, last week received notice of the death of his aged mother and father by fire. His grieving has become so intense that he has become uncontrollable. It is feared that he will do something drastic to himself . . .”

I read no further but folded the newspaper and looked at the paint stain on one of the windows.

Cancer Research

By LEO KIERNAN

ALTHOUGH many unsupported and unjustifiable theories of cancer causation have been presented in the past few years, there are certain records in this country which afford a strong foundation for definite theories on the causes of cancer. These records are made up of a statement of the cause of death and the occupation of every deceased person. From a consideration of these statistics, and from a careful comparison of the causes of death in the various occupations, we can learn many facts about the conditions which predispose to cancer.

The mortality from various causes is calculated per million persons living, or the comparative mortality from any one disease under investigation can be calculated as so many deaths out of one thousand total deaths. For example, the comparative mortality figure for cancer might be expressed as 120 deaths out of every one thousand deaths from all causes taken together.

If the effect of a particular occupation upon the occurrence of cancer is to be studied, then the comparative mortality figure for cancer in that occupation is compared with the cancer mortality figure for the entire male population. The male population alone is considered, since the occupation of women is usually a temporary one.

Some trades when thus considered are found to have a high cancer rate, while others have a relatively low cancer rate. Those occupations in which the workers are exposed to definite cancer-causing agents, and which have a very high proportion

of some particular form of cancer, are already known. There is still much important knowledge to be gleaned from the constant observation of these death records, and it is necessary that attention should be focused on new industries as they arise.

Facts of great interest have recently been brought to light by dividing the male population into classes which are determined by standard of living. The death rates of the five classes thus devised are then compared with one another. The five classes chosen are as follows:

1. Upper classes.
2. Intermediate; (clerks are included in this class) .
3. Skilled workers.
4. Intermediate; this class includes agricultural laborers.
5. Unskilled workers, including beggars, tramps, and other habitually unemployed persons.

A comparison of the cancer mortality of the different classes shows that Classes 2, 3, and 4 have much the same rate. Class 1 has a low rate, while Class 5 has a rate which is higher than average. Class 1 has 102.5 deaths from cancer for every 1,000 deaths of the general male population, whereas Class 5 has 157.8 deaths caused by cancer.

Such figures suggest an influence of external conditions upon cancer causation. The suggestion becomes more definite if particular attention is given to the site of the disease most common in the different classes. This is because it is apparent that it is only in the exposed sites that difference in class makes a large difference in the cancer rate. The exposed sites include, as well as the actual skin, the mouth, the oesophagus, the larynx, and the stomach.

The fact that the incidence of cancer of the upper alimentary tract is so much increased by poor living conditions gives

reason for supposing that the quality and quantity of food and drink consumed must have some influence upon it. The lower part of the alimentary tract has practically the same cancer rate in all classes, so that whatever the agent is, it is not effective below the stomach. This is to be expected, since an irritating substance has greater effect upon the mouth and throat due to the fact that it is present in the undiluted state until it becomes mixed with the digestive juices of the stomach.

Statistical research in cancer should be continued. Doctor George A. Soper of New York has said:

"I think we do not realize how much we owe to epidemiological research nor appreciate what a great deal could be learned from this kind of investigation if only it could be pursued with ability and encouragement, such as are directed to other branches of cancer study."

Occupational cancers are those which have been found to be present in high proportion among the workers in any particular trade. Although the technical name of the cancer usually present is Epithelioma it is usually given a name which indicates the occupation of the men affected. Hence, we speak of "mule-spinner's cancer" when referring to a cancer which is prevalent among workers running machines that are saturated with lubricating oil which often spatters the operator of the machine.

"Oil refinery worker's cancer" is a good example of successful research among the occupational cancers. In certain stages of the shale oil refining process the bare skin of the workers comes in contact with the crude or partially refined oil. For instance, when the shale is shovelled on the trays, before being put into the hydraulic press, it is levelled off by the workers with their hands and forearms. Due to the height of the presses, the trays are often lifted above the heads of the men. Thus, any drops of oil that come out of the trays will trickle down the arms of the workers. Also, when the presses are put into operation,

the oil often sprays out against the legs of the workers. The result of this continual wetting with oil is that warts and pimples begin to appear on the exposed sites. Eventually, the warts may give rise to epitheliomata, which are skin cancers.

Increased cleanliness in person and in clothing is doing much to prevent the occurrence of this occupational cancer. When provisions are made for the washing of both body and clothing to remove as much of the oil as possible, the danger is obviously lessened to a great degree.

"Mule-spinner's" cancer is another famous occupational cancer which is due to continual exposure to oil. Laboratory research has practically eliminated this type of cancer. This achievement was due to painstaking effort by laboratory workers which finally rid the oil of its cancer-causing properties without lessening its value as a lubricant.

Among the miners of Schneeberg, Germany, it was found that two out of three deaths were due to cancer of the lung. Since cancer of the lung is a comparatively rare type, and since it was only the workers and not their families who were affected, it was concluded that one of the products of the mines must be causing the disease. Arsenic is one of the products sought for in this mine. For that reason, the cancer-causing properties of arsenic have been tested on small animals in the laboratory. J. Maisin, director of the Cancer Institute in Louvain, Belgium, has written concerning this experiment:

"It is well known that certain authors attribute to arsenic a role in the evolution of cancer (accelerating action). In the different experiments we have tried to elucidate this role but have not succeeded, so that we cannot have a personal opinion on the matter."

Until arsenic is established by laboratory experiments as a definite cause of cancer, the situation now existing in the mines of Schneeberg cannot be remedied.

Cancer Research

The demonstration that cancer can be produced experimentally in the laboratory has been of the greatest importance in increasing our understanding of the cause of cancer. The experimental production of cancer was first achieved by Fibiger of Denmark in 1913. This success followed upon the accidental discovery of tumors in the stomach of some wild rats. Fibiger was making a post-mortem study of three wild rats which he had previously injected with tubercle, and he found that they each had a tumor in the stomach. These tumors were not truly malignant, and in some cases had not yet given rise to secondary growths.

Microscopic examination of the stomachs showed that there were some adult nematode worms imbedded in the walls. It was known to him that other workers had already described the presence of nematode worms in connection with mammary tumors in mice. The growths which Fibiger had found, however, seemed to be of a type not previously described in rats. He therefore collected and examined over a thousand rats, but was unable to find either a tumor or a parasite such as that which he had discovered in the original rats. Attempts to obtain a similar growth by feeding bits of the original tumors to normal mice also failed.

After these failures, Fibiger decided that the nematode was not directly transferable, but must instead be transferred by means of an intermediate host. It was already known that rats could be infected by nematodes as a result of eating cockroaches which were infected with the worms. Therefore a study was made of rats found in roach-infested localities. Finally he found that a large proportion of the rats taken from a certain sugar refinery were infected with nematodes in the stomach walls. Several of these also had tumors such as he had originally discovered. Cockroaches from the same sugar refinery were caught and fed

to healthy laboratory rats. When these rats were killed after several months, the post-mortem examinations revealed that about two-thirds of them had rather large tumors on the stomach walls!

Thus was the first cancer produced in the laboratory experimentally. Today a routine method for the experimental production of cancer has been derived. The skin on the back of an animal, which is usually a mouse, is painted about twice a week with tar. The painted area becomes rough and scaly, and the first sign of a tumor is the development of tiny warts and pimples on the back. These warts form the primary growth; if a secondary growth occurs, it is epitheliomatic. Not only commercial coal tar, but also many artificial tars may thus be tested by simply preparing a chemical mixture which will contain the suspected cancer-causing agent.

By following the routine method of producing cancer as just described, it has been possible to discover not only cancer-causative agents, but also agents which may halt and even slow down the incidence of cancer growth. For example, experiments carried out in the laboratories of the Cancer Institute in Louvain, Belgium, by P. Estas have shown that certain metals have a definite role in the predisposition to tar cancer. Thus copper has been found to have a retarding effect on the development and even on the genesis of the tumor. This is true only if the copper is injected in feeble doses. If strong doses are given, the effect is quite the opposite. Even better results were obtained by injecting magnesium compounds into the diseased mice. J. Maisin, director of the institute, stated that:

“Magnesium given in suitable doses is capable of delaying the apparition and the evolution of tar cancer in the mouse. To obtain a real effect one must give at least one centigram a week to a mouse.”

Cancer Research

The apparent resistance of certain individuals to cancer has aroused the curiosity of many research workers. After many years of constant research a theory has been developed which attributes this resistance to inheritance. The difficulties which have faced these research workers are quite readily understood. One of the greatest difficulties is that the genealogy of most people is vague. Another is that a true study would have to continue for many years, due to the fact that several successive generations must be studied. For these reasons, a short-lived mammal is studied in the laboratory rather than human beings. Mice are usually the most suitable animals to use.

Before discussing the research concerning cancer susceptibility, a rough description of the Mendelian laws of inheritance should be given. An example is best suited for quick presentation of these laws. If a male having brown eyes and a female having blue eyes are bred together, the offspring will all have brown eyes, due to the fact that brown is dominant over blue. This does not mean that the offspring cannot have, in turn, children with blue eyes. On the contrary, if the first generation is bred together, the children produced will have either brown eyes, blue eyes, or a mixture of brown and blue eyes. If this fact is kept in mind, the inheritance of susceptibility to cancer can be better understood.

Miss Maud Slye, whose work in this field has been quite extensive, shows that in some respects the tendency to cancer behaves as if it is inherited as a recessive factor. One fact at least has been definitely established:

“If a cancerous father be mated with a non-cancerous mother, none of the first generation will have cancer. But when this generation is mated together, one-quarter of the offspring will develop cancer.”

One of the most definite instances we have of an inherited tendency to cancer is the case of a species of *Drosophila*, a minute fruit fly. A strain of *Drosophila* was found to develop some disease which caused the death of many of the males before they reached maturity. This disease proved to be a black tumor. Of the hereditary nature of the tumor there was no doubt at all. Females were never affected by it, but certain females carried the tendency as a recessive character. When these were mated, one-quarter of their male offspring developed the growth and died in the larval stage.

When experiments of this type are carried out with mice as the subjects, the results are not so constant. One reason is that the type and also the site of the tumor varies and cannot be controlled. Again, the cancer age of mice usually occurs after the breeding age, so that the actual breeding must be done before it is known whether the animals will develop a tumor or not. Moreover, the mice must be kept alive to quite an old age in order to determine which of them have the tendency to cancer.

Because of the great success achieved in the laboratory, one might draw the conclusion that the inheritability of a tendency to cancer can be applied to human beings. There are, however, many factors present in the environment of an individual which would cause an appreciable deviation from the results which might be expected. Such factors might be one's occupation or trade, constant exposure to strong sunlight, constant cigarette smoking, or even habitual drunkenness. The hereditary theory can be applied to some extent, however, when considering, for example, the problem of which of two individuals will fall victim to cancer, if both are exposed to the same unfavorable conditions.

In connection with this problem of susceptible and resistant individuals Maud Slye has made an intensive study of the

interrelation between hereditary predisposition and external factors in the causation of cancer. In a report on the results of over 14,000 experiments with mice, she concludes:

“The conclusion seems unavoidable that in the cases herein described hereditary predispositions and external gross traumas were the interrelated causes of the occurrence of cancers.”

When one of the early experimenters in cancer found that he could transplant a tumor from one animal to another, he concluded that cancer is an infectious disease. Subsequent development of the technique of transplanting and of studying tumors has disproved the earlier theory that cancer was infectious. The modern method of transplanting and of studying tumors can be roughly described as follows. The animal bearing a tumor is killed, and small portions of the growth are removed with aseptic precautions and inserted by means of a hollow needle under the skin of the animals which are to be grafted. Here the portions of tumor continue to grow, and with the aid of the microscope the active division and growth of the cancer is observed. With the cancer cells themselves there is transplanted a certain amount of supporting connective tissue, which, being normal and non-cancerous, has not the same power of transplantability, and dies within the first few days of implantation.

If the transplanted tumor is now transferred to still another animal, the tumor will continue to grow to greater proportions in its new habitat. By such continued transplanting of tumors, cancerous growths have been kept alive for as long as thirty years! The size attained by such tumors places startling emphasis on the powers of growth possessed by cancer cells.

Ordinarily, the tumor cannot be transferred from one species of animal to another, because the tumor usually ceases to grow and dies. There are exceptions to this rule. For in-

stance, certain types of cancer may be grown in both mice and rats, while another type can be grown in fowls and ducks.

Due to the fact that the infectious nature of cancer has been disproved only in laboratory animals and not in human beings, the proof cannot be considered absolute. On the contrary, Rous has described a sarcoma (fleshy tumor), originally occurring spontaneously in Plymouth Rock fowl, which presents the remarkable property of being transmissible without transplantation of living cancer cells. The Rous sarcoma is limited to fowl cancer only.

The nature of the infecting agent seems to be that of a filter-passing virus due to the method of preparing the agent. The method used by Rous was to remove the sarcoma tissue from the original fowl and grind the tissues into a very finely divided state by the use of sand. The sand is then extracted from the semi-liquid tissues by means of a salt solution. The fluid portion is then separated as much as possible from the debris of the cells and is finally passed through a porous "candle" or "germ filter." The filtrate thus obtained is as clear as water and entirely free from any trace of cancer cells. But if even one drop of this solution is injected into the breast tissues of a fowl, the result will be rapid formation of a sarcoma.

Due to the widespread use of vaccines and sera in treatment of many diseases, the question has often been asked why something of this kind has not been attempted in cancer cases. As a matter of fact there has been a great deal of research in connection with this phase of cancer treatment, but it has certainly not reached the stage of practical application to human patients.

The injection of either a vaccine or a serum is done in order to produce in the body certain agents which will combat a disease. If mild doses of a germ are injected into the body, the body is capable of creating its own agents which will combat

the disease. In that case the injection is termed a vaccine, and the immunity produced is called active immunity. If, however, the person is already suffering from a disease, the agents produced in another body to combat the disease are injected into the person now suffering. The injection is then termed a serum and the immunity is passive. Both of these types of treatment have already been tried against cancer, but neither has been very successful.

In the laboratory search for a vaccine, only one method has been found to be successful. That method has been to produce two tumors in some isolated part of the body, such as the foot, where the growth cannot spread too rapidly. One of the tumors is given some direct treatment, such as repeated injections with sera. When this tumor finally breaks down and disappears, the second untreated tumor also disappears, presumably because the break-down of the first cells has released something in the nature of a vaccine.

Unfortunately, there can be no practical application of this method, because, in the laboratory the site of the cancer is determined beforehand, while in actual cases, the tumor may occur anywhere in the body.

One of the first to obtain an anti-cancer serum was Jenson. He injected rabbits with tumor material from albino rats, and treated tumor-bearing animals with the serum thus obtained. He saw what he thought was an effective cure. However, extensive repetition of the experiments showed that the serum actually had little or no effect. The apparent cure was really due to spontaneous disappearance.

The best experiments which have been carried out on this subject, that is the action of anti-cancer serum, are credited to Lumsden.

“Lumsden found that by innoculating rabbits with mouse cancer it is possible to produce not only a general anti-mouse group of bodies which are not specific against cancer cells, but also believes he has obtained another group of anti-bodies toxic not only to mouse-cancer, which were used as an antigen, but also toxic to many other varieties of malignant cells.”

Thus was the first real step taken in the development of a true anti-cancer serum. Whether or not such a serum is ever found will depend on research, just as any other scientific discovery has been due to that same intricate process. The main difficulty before the laboratory worker is that of being reasonably sure of his work to test its results on human patients. Obviously, this is the final step and the final test to prove or disprove the theory which has heretofore been attempted only with the animals of the laboratory.



We Shall Meet Again

By MICHAEL FAY

INTENSE interest like the sequence of a sorcerer's magic pervaded the crowd gathered before the office of a large newspaper concern in London. It spread over all, saturating them, as it were like a fog slinking up from a waterfront and uniting a nondescript crowd in this common emotion.

They watch with intense interest the large war map that is splashed up against the wall of the newspaper building. The map is a maze of buttons; red buttons, yellow buttons, black buttons and blue buttons. These buttons are moved back and forth across the map marking the progress of the war in Libya. The silent question in everyone's mind as they gaze upon this map is, "Will Romell be stopped? Or will his armies continue their untiring march across the vast sands of Libya?"

At the outskirts of this crowd a young woman nervously stands. She too is watching with interest the progress of the war. Anxiety shows on her face. She is thinking of her husband, Ricky, a flight lieutenant in the R. A. F. He, along with the other members of this valiant crew, is fighting tooth and nail to stop the Nazi hordes from sweeping across Libya to Alexandria. As she watches the map a silent prayer escapes from between her lips. She prays for the safe-keeping of her husband.

A laughing young man, sunny with freckles, with a cigarette dripping from between his air-cooled teeth ascends the ladder leading up to the war map. He yells a joke at somebody in the crowd. Then he fixes a yellow button an inch west and follows the yellow button with a black button one inch west.

The young woman at the outskirts of the crowd feels happy. Anxiety seems to fly from her face. Her Ricky was part

of the army that stopped the Nazi horde. She leaves the crowd and starts for home dreaming little intimate dreams about her husband and the happiness they together knew. Dreams, little though they be and so insignificant as they seem, mean so very very much to her. Soon he would be coming home on furlough and then they would be united again.

Four miles south of Alexandria, secluded in the hills, lies a British airdrome. On the field a Wellington mid-wing monoplane, idling lazily, stands in the darkness of the night. To its ample belly, air craftsman were attaching a huge load of high-explosive bombs. Others were checking guns and still others were busy putting the bomb-sight into place.

The crew was composed of six men: a flight lieutenant in command, a co-pilot, navigator, wireless operator and two gunners.

The flight lieutenant, called by his friends Ricky, was a hard-bitten veteran of 24. His eyes remained continually cold. His smile had an unpleasantly cynical twist to it. But his name is definitely established in the R. A. F. ace listings. He had only recently been transferred from fighters to the highly important bombing work. This was to be his last flight, after which he was taking a much needed month's furlough.

The crew of the Wellington were gathered near the plane smoking a last cigarette before going aloft.

Ricky, the flight lieutenant, flips his cigarette away, saying, "We've been assigned to destroy the supply routes of the Nazis who were advancing from Tobruk. We have to blow up anything that resembles a road. Let's go."

A few minutes later the six were climbing into the Wellington. Ricky hands a letter to one of the ground crew saying, "Take good care of this Willy, it's a letter to my wife."

All of the six men were clad in moleskins and thick helmets. All wore parachutes. The navigator carried a large

We Shall Meet Again

chart. Ricky took the controls. The gunners moved to their guns.

The Wellington's motors broke into a sullen roar and the heavily-loaded plane began rumbling down the runway to turn into the are line—a path of ten dim lines strung across the field. The motors took up a new tone and the bomber picked up speed. The tail lifted, then the wheels were clear only to bump back to earth under the terrific burden. Up again, the Wellington cleared the trees at the end of the field by a scant margin of about 15 feet.

A full moon poked through ominous clouds. It seemed to be walking knee-deep among those ragged vagabonds of the night.

Within twenty minutes the Wellington was above—. It flew at 20,000 feet. Orders were to keep on going to a point near Tobruk, behind the advancing Nazi columns to bomb the roads traveled by the supply columns.

From that height it was impossible to see the fiercely wonderful fight on the fields of Libya, but blazing fires and flashes of guns could be plainly seen.

"Must be quite a show going on," yelled the co-pilot.

Ricky nodded. Down below he was watching the shadows of planes engaged in a dog-fight at 700 feet.

Suddenly there came a warning yell from the navigator. He was pointing frantically out of the starboard window where clearly outlined in the sketch of moonlight was a flight of seven Heinkels 113's.

Ricky cursed himself for having allowed the show below to distract his attention. The seven Heinkels were streaking toward the lone British bomber.

These single bomber attacks generally carried a surprise element but it was bad business when they got caught.

Ricky banked into a steep sideslip. Lightning shot from the panel board ahead as a shower of lead pierced the plane. A quick glance confirmed his fear, the co-pilot was lolling back in his seat half of his head shot off.

From ahead Ricky heard a sudden burst of machine gun fire. The front gunner was tearing loose. The front gun rattled again and a Nazi went to pieces in a sudden bright explosion.

Ricky shoved the control column straight ahead and the nose pointed eastward. He was tossing the Wellington around in unorthodox fashion hoping it would give his gunner on the tail a crack at anything from that level.

But no blast came from the rear, that meant that something must have happened to the rear gunner. Ricky yelled at the navigator to leave his post and take over the rear gun. The navigator began going aft in the rolling plane stumbling over the wireless operator who, evidently had been caught in the first blast.

The Wellington levelled out. No sound came from ahead. Another gone, moaned Ricky. The sky was filled with swastikas. Another Heinkel was coming straight for the Wellington. A flash from one of its cannons was followed by a screeching sound in the Wellington. Ricky was sprinkled with glass. The small shell had evidently plowed the length of the plane. The Wellington was wobbling badly. From behind and below came a ripping sound, machine gun spray from the planes below. Ricky gasped, his left arm was shattered and blood was trickling down his right arm from an elbow wound that hurt terribly, but he could still move the fingers of his right hand. The pain was intense. He yelled for the navigator but a quick glance showed him the navigator hadn't ever reached the rear of the plane. He was sprawled over the collapsible raft.

Fire was starting to blaze midway in the Wellington. Rickey kicked the rudder wildly and looked ahead. A Heinkel

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screamed toward him, guns winking and blinking, belching missiles of death. Ricky felt a pain in his chest, his head slumped, his hands relaxed, the big Wellington, like a wounded bird, slumped over on its side and fell to earth, smoke spilling from it. Hanging above and circling about like vultures, greedily watching the kill, was the flight of Heinkels.

In a little town outside of London, seated in one of those typical English houses was a young woman. On her knees is the picture of her husband, smiling at her. It is the last picture he had taken in uniform just before he went away. She has just finished reading a letter. She holds it in her hands caressing it tenderly. It is a letter from Ricky written before the battle of Libya. On the floor is a tear-stained telegram from the War Department telling her of her husband's fate.

The woman speaks to the picture, for no one else is in the room. "O Ricky, never have I felt the bitter pains of loneliness when you were with me. But now that you are gone there is not very much to live for. Never more shall we meet in the garden under the moonlight. No longer can we walk together in the darkness. How could I ever fancy darkness there beside you. Even now I'm trying to recapture moments of exciting bliss in this maze of dreams and marching men, reliving our last kiss.

"In the short time we were married we have spent a lifetime of happiness. There wasn't time enough to look upon the dark side of life. Now Ricky, the long hours drag since you left me, with the numbing surgery of good-bye. But through the years I know that you will take your place beside me as I go on trying to keep from crying from the bitter pains of loneliness. Even if our moment of happiness has been short, there will be another moonlight garden and we shall meet again."

The young man with the freckled face, his cigarette dangling from humorous lips, mounts his platform and casually moves colored little buttons over his chart.

By The Way

a pendulum swings both ways . . .

THE irate father exploded again. "What do you mean, ambition is a foolish thing? What do you think I'm putting you through college for, to sit around the house here and philosophize on the futility of life? Is that what Providence College is turning out, a bunch of educated slackers? No ambition! What good is a man with no ambition? He might just as well lay down and die: he's no damn good to anybody!"

These are strong words, framing a powerful indictment. They challenge not only Providence College but the entire Catholic philosophy of life. They present, in concrete, bristling language, the scorn of a practical business-man, a man who deals in tangible realities and not in abstract metaphysical concepts. If these words are true, if we concede that ambition IS a foolish thing, that Providence College IS turning out educated slackers, then the imminent disintegration of Providence College is inexorable. For obviously, of what value to a community is an educational institution which yields annually a harvest of young men who are morally convinced that ambition is absurd, and that all drive toward success is but a waste of time and energy?

This is the question that the hard-headed father asks. HE has never studied philosophy.

His son, however, perhaps in his senior year in Providence College, suddenly finds himself wondering just why a man should

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BE ambitious. He has had, we will assume, the benefit of four years of religion-philosophy, and he finds now, to his own surprise and dismay, that no longer does he desire to be a captain of industry, an eminent physician, chemist, or anything else that young men, by nature, desire to be. The urge for fame and fortune has vanished. This is odd.

And so, unconsciously, he seeks for causes. How come, this emptiness of purpose? When he had graduated from high school, with honors perhaps and the praise of his teachers sugar to his ego, he had had "lofty visions of grandeur". "Hitch your feet to the stirrup-seat of a comet crossing Mars", "Hitch your wagon to a star", "When others say it can't be done—Go ahead and do it!"—these would be his mottos. Success was his goal, life the road, and ambition the driver.

College. Unthinkable what a metamorphosis four years could effect! What had happened? Where had evaporated all that intense fanaticism? Somewhere along the line Providence College had pricked the bubble. And this "somewhere" he is not long in recognizing as the religion and philosophy courses he has absorbed in his four years' association with the White Friars.

Now the question is: How? How could such a vital element in the composition of youth be so scotched out of his soul? Our young man, therefore, reviews his religion and philosophy courses. In philosophy he studied man and his ultimate objective. He was taught to keep ever that ultimate before him and to ignore distracting proximates. He learned that his object in life was the salvation of his soul. In religion, he studied the proofs for the existence of God, the foundations and origin of

the Catholic Church, and—the ways in which he should logically proceed in order to save his soul. So.

Now then, how does ambition work in here? When he had been in high school, his chief incentive to encourage ambition had been, perhaps, fame. Not that he wanted to be a second Napoleon. He merely thought of himself as a man of high repute, respected for his integrity and position, popular with male and female alike. Perhaps people would point him out as that fine man, a credit to his family and community, etc., etc.

Or perhaps he had longed for money: a \$20,000 a year job, money in the bank. Perhaps he had dreamed of selling his invention or his novel for half a million dollars.

Or perhaps he had dreamed of happiness, serene and uninterrupted in the rustic atmosphere of Connecticut, with the birds and the bees and sunshine galore.

These are the usual incentives for an ambitious man. Fame, money, or happiness. Perhaps self-satisfaction. What else is there?

Philosophy, however, and the thinking it encourages, dilutes the attractiveness of these spurs to success. If the salvation of his soul is man's goal, what is the value of earthly fame? Will Napoleon or Disraeli or Washington rate a higher place in heaven because they were famous, than the poor cobbler in Hamburg who died leaving a mourning wife and eight children? Will Andrew Carnegie rate a higher place in heaven because he was fabulously wealthy, than Share-cropper Joe Styles and his mortgaged dirt?

Baldly, no.

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The son recognizes now that fame is fleeting and fickle. What was the number one song on the Hit Parade six weeks ago? He's forgotten, but what difference does it make? Another song has taken its place, and who's the sadder? He recognizes, with regard to wealth, that "You Can't Take It With You". Death is the great equalizer.

He has become conscious, furthermore, of the futility of seeking true happiness here on earth: sorrow follows joy and joy, sorrow in monotonous succession. A scientific diagnosis of human experience screams out that earthly happiness is a myth.

The incentives, then, are blasted. And man will do nothing without an incentive. What price glory? What use ambition?

This is what has happened to his high school ambition. His philosophy of life, if we may use the expression, might now be summarized like this: If I live my life so that on Judgment Day, Jesus Christ will be happy to say to me: "Well done, thou good and faithful servant. Enter with Me into the gates of Everlasting Happiness", then, then my life has been lived purposefully. I need no fame, no fortune, no happiness, no self-satisfaction.

This is a potent argument. It deals with ultimates, not proximates.

In the catechism of our first years there was this question: Why did God make me? And the answer that we all remember: God made me to know Him, to love Him, and to serve Him in this world, and be happy with Him forever in the next. There is nothing here about ambition. If, in learning to know God,

and knowing, to love, and loving, to serve, fame and fortune should come, as accidents, all well and good. But this is to be doubted.

The argument that we have a moral obligation to our parents, to God, and to ourselves to strive tenaciously and ambitiously after *bona mundi* must be handled very carefully. We must distinguish: strive for them insofar as they will contribute to our own chances for attaining the ultimate goal, and not insofar as they will satisfy our ego or impress our neighbors.

But where are we now? Back with the irate father, disgusted with his son's lack of ambition; back with the son, puzzled and unhappy in his being misunderstood. Both agree that Providence College is producing a type of student, the exception perhaps rather than the rule, who completely lacks ambition. The father therefore condemns the college as incapable of fulfilling its role of a practical agency in the community; the son, still looking at ultimates, loath to condemn the college, wonders just what is to take the place of ambition in his life to make life worth living, wonders too whether ambition, like concupiscence, is not another of the obstacles to Heaven planted deep in the nature of man.

Perhaps he is sorry he knows so much about ultimates.

At any rate, he sits and thinks: "What shall it profit a man if he gain the whole world, and suffer the loss of his own soul?"

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